PART 70 SIGNIFICANT SOURCE MODIFICATION
and
POLLUTION CONTROL PROJECT

OFFICE OF AIR QUALITY

ThyssenKrupp Waupaca, Inc.
9856 State Highway 66
Tell City, Indiana 47586

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this approval.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Significant Source Modification and PCP Permit No.: 123-16456-00019	
Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: May 13, 2003

TABLE OF CONTENTS

SECTION A SOURCE SUMMARY

This approval is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the emission units contained in conditions A.1 through A.2 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this approval pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

The Permittee owns and operates a stationary gray and ductile iron foundry.

Responsible Official:	Vice President
Source Address:	9856 State Highway 66, Tell City, Indiana 47586
Mailing Address:	P.O. Box 249, Waupaca, Wisconsin 54981
General Telephone No:	715-258-1166
SIC Code:	3321
County Location:	Perry
County Status:	Attainment for all criteria pollutants
Source Status:	Part 70 Permit Program Major Source under PSD Rules; Major Source, Section 112 of the Clean Air Act 1 of 28 listed source categories (Secondary Metal Production)

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source is approved to modify and operate the following emission unit and pollution control device with the following modification:

(a) One (1) phenolic -urethane core making process, identified as P43, consisting of 6 mixers and 6 core machines, with a total maximum production capacity of 20 tons of core per hour. VOC emissions are controlled by one (1) packed bed scrubber, identified as C14. The gases are then exhausted to Stack S14. P43 was permitted under PSD 123-8451-00019.

(b) Two (2) new Isocure phenolic urethane cold-box core machines, identified as P44, each with a maximum capacity of 3 tons of cores per hour with VOC emissions controlled by an acid scrubber, identified as C14, and exhausting through Stack 14. P44 was permitted under PSD 123-12948-00019.

The modification now called Phenolic Core Making and identified as P45, consist of the same number of core machines and core mixers:

(a) Change the catalyst in the core making operation from Triethylamine (TEA) to Dimethylisopropylamine (DMIPA). DMIPA is a non-HAP catalyst because it is not listed in the Section 112 of the Clean Air Act (CAA). This change is applicable to both P43 and P44.

(b) Improve the overall control (OE) efficiency of the scrubber from 94% to 98% by making the capture efficiency equal to 100%, and maintaining the destruction efficiency to at least 98%. This change is applicable to P43 only, because this is already applicable to P44.

(c) Use a low-volatile organic compound (VOC) phenolic urethane resin (PUR). This is applicable to P43 only, because this is already applicable to P44.

This modification can be accomplished with no new construction of emitting unit, however, the

total enclosure has to be done to make the capture efficiency of the scrubber 100%. The modification is mainly change in raw material.

This modification is also considered a Pollution Control Project (PCP).

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

(a) It is a major source, as defined in 326 IAC 2-7-1(22);

(b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

SECTION B GENERAL CONSTRUCTION CONDITIONS

B.1 Permit No Defense

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions [326 IAC 2-7-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-7) shall prevail.

B.3 Effective Date of the Permit [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-2-8]

Pursuant to 326 IAC 2-2-8(a)(1), this permit shall expire if modification is not commenced within eighteen (18) months after receipt of this approval or if preparation for the modification is suspended for a continuous period of twelve (12) months or more.

B.5 Modification to Construction Conditions [326 IAC 2]

All requirements of these construction conditions shall remain in effect unless modified in a manner consistent with procedures established for modifications pursuant to 326 IAC 2.

B.6 Significant Source Modification [326 IAC 2-7-10.5(h)]

This document shall also become the approval to operate pursuant to 326 IAC 2-7-10.5(h) when, prior to start of operation, the following requirements are met:

(a) The attached affidavit of construction shall be submitted to:

Indiana Department of Environmental Management
Permit Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

verifying that the emission units were modified as proposed in the application. The emissions units covered in the Significant Source Modification approval may begin operating on the date the affidavit of construction is postmarked or hand delivered to IDEM if constructed as proposed.

(b) If actual modification of the emissions units differs from the construction proposed in the application, the source may not begin operation until the source modification has been revised pursuant to 326 IAC 2-7-11 or 326 IAC 2-7-12 and an Operation Permit Validation Letter is issued.

(c) If the modification is completed in phases; i.e., the entire modification is not done continuously, a separate affidavit must be submitted for each phase of modification. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

(d) The Permittee shall receive an Operation Permit Validation Letter from the OAQ Permit Branch and attach it to this document.

(e) In the event that the Part 70 application is being processed at the same time as this application, the following additional procedures shall be followed for obtaining the right to operate:

(1) If the Part 70 draft permit has not gone on public notice, then the change/addition covered by the Significant Source Modification will be included in the Part 70 draft.

(2) If the Part 70 permit has gone through final EPA proposal and would be issued ahead of the Significant Source Modification, the Significant Source Modification will go through a concurrent 45 day EPA review. Then the Significant Source Modification will be incorporated into the final Part 70 permit at the time of issuance.

(3) If the Part 70 permit has gone through public notice, but has not gone through final EPA review and would be issued after the Significant Source Modification is issued, then the Modification would be added to the proposed Part 70 permit, and the Title V permit will issued after EPA review.

SECTION C GENERAL OPERATION CONDITIONS

C.1 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.

(c) A responsible official is defined at 326 IAC 2-7-1(34).

C.2 Preventive Maintenance Plan [326 IAC 2-7-5(1),(3) and (13)] [326 IAC 2-7-6(1) and (6)] [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) when operation begins, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

The PMP extension notification do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation.

The PMP does not require the certification by the "responsible official" as defined by 326

IAC 2-7-1(34).

(d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

C.3 Permit Amendment or Modification [326 IAC 2-7-11] [326 IAC 2-7-12]

(a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application shall be certified by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

C.4 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.6 Operation of Equipment [326 IAC 2-7-6(6)]

Except as otherwise provided by statute or rule, or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission units vented to the control equipment are in operation.

Compliance Requirements [326 IAC 2-1.1-11]

C.7 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)] [326 IAC 2-7-6(1)]

C.8 Compliance Monitoring [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

If required by Section D, all monitoring and record keeping requirements shall be implemented when operation begins. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

C.9 Maintenance of Emission Monitoring Equipment [326 IAC 2-7-5(3)(A)(iii)]

(a) In the event that a breakdown of the emission monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less often than once an hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.10 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

(a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

(b) Whenever a condition in this permit requires the measurement of a temperature, flow rate, or pH level), the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

(c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5] [326 IAC 2-7-6]

C.11 Compliance Monitoring Plan - Preparation, Implementation, Records and Reports [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. The compliance monitoring plan can be either an entirely new document, consist in whole of information contained in other documents, or consist of a

combination of new information and information contained in other documents. If the compliance monitoring plan incorporates by reference information contained in other documents, the Permittee shall identify as part of the compliance monitoring plan the documents in which the information is found. The elements of the compliance monitoring plan are:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:

(A) Reasonable response steps that may be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking reasonable response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to take reasonable response steps may constitute a violation of the permit.

(c) Upon investigation of a compliance monitoring excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was

not met and of all response steps taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(e) All monitoring required in Section D shall be performed at all times the equipment is operating. If monitoring is required by Section D and the equipment is not operating, then the Permittee may record the fact that the equipment is not operating or perform the required monitoring.

(f) At its discretion, IDEM may excuse the Permittee's failure to perform the monitoring and record keeping as required by Section D, if the Permittee provides adequate justification and documents that such failures do not exceed five percent (5%) of the operating time in any quarter. Temporary, unscheduled unavailability of qualified staff shall be considered a valid reason for failure to perform the monitoring or record keeping requirements in Section D.

C.12 Emergency Provisions [326 IAC 2-7-16]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-7-16.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section), or
Telephone Number: 317-233-5674 (ask for Compliance Section)
Facsimile Number: 317-233-5967

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality

100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAQ, may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4-(c)(10) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ, by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value.

Any operation shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

C.13 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5] [326 IAC 2-7-6]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do not require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.14 General Record Keeping Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-6]

(a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.15 General Reporting Requirements [326 IAC 2-7-5(3)(C)]

(a) The reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period. Reporting periods are based on calendar years.

C.16 Application Requirements for Section 112(j) of the Clean Air Act [40 CFR 63.52(e)] [40 CFR 63.56(a)] [40 CFR 63.9(b)] [326 IAC 2-7-12]

(a) The Permittee shall submit a Part 2 MACT Application in accordance with 40 CFR 63.52(e)(1). The Part 2 MACT Application shall meet the requirements of 40 CFR 63.53(b).

(b) Notwithstanding paragraph (a), the Permittee is not required to submit a Part 2 MACT Application if the Permittee no longer meets the applicability criteria of 40 CFR 63.50 by the application deadline in 40 CFR 63.52(e)(1). For example, the Permittee would not have to submit a Part 2 MACT Application if, by the application deadline:

(1) The source is no longer a major source of hazardous air pollutants, as defined in 40 CFR 63.2;

(2) The MACT standard or standards for the affected source categories included at the source are promulgated.

(c) Notwithstanding paragraph (a), pursuant to 40 CFR 63.56(a), the Permittee shall comply with an applicable promulgated MACT standard in accordance with the schedule provided in the MACT standard if the MACT standard is promulgated prior to the Part 2 MACT Application deadline or prior to the issuance of permit with a case-by-case Section 112(j) MACT determination. The MACT requirements include the applicable General Provisions requirements of 40 CFR 63, Subpart A. Pursuant to 40 CFR 63.9(b), the Permittee shall submit an initial notification not later than 120 days after the effective date of the MACT, unless the MACT specifies otherwise. The initial notification shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015
and
United States Environmental Protection Agency, Region V
Director, Air and Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-7-5(15)]

(a) One (1) phenolic -urethane core making process, identified as P43, consisting of 6 mixers and 6 core machines, with a total maximum production capacity of 20 tons of core per hour. VOC emissions are controlled by one (1) packed bed scrubber, identified as C14. The gases are then exhausted to Stack S14. P43 was permitted under PSD 123-8451-00019.

(b) Two (2) new Isocure phenolic urethane cold-box core machines, identified as P44, each with a maximum capacity of 3 tons of cores per hour with VOC emissions controlled by an acid scrubber, identified as C14, and exhausting through Stack 14. P44 was permitted under PSD 123-12948-00019.

The modification now called Phenolic Core Making and identified as P45, consist of the same number of core machines and core mixers:

(a) Change the catalyst in the core making operation from Triethylamine (TEA) to Dimethylisopropylamine (DMIPA). DMIPA is a non-HAP catalyst because it is not listed in the Section 112 of the Clean Air Act (CAA). This change is applicable to both P43 and P44.

(b) Improve the overall control (OE) efficiency of the scrubber from 94% to 98% by making the capture efficiency equal to 100%, and maintaining the destruction efficiency to at least 98%. This change is applicable to P43 only, because this is already applicable to P44.

(c) Use a low-volatile organic compound (VOC) phenolic urethane resin (PUR). This is applicable to P43 only, because this is already applicable to P44.

This modification can be accomplished with no new construction of emitting unit, however, the total enclosure has to be done to make the capture efficiency of the scrubber 100%. The modification is mainly change in raw material.

This modification is also considered a Pollution Control Project (PCP).

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-7-5(1)] [326 IAC 2-2-3(a)(3)] [326 IAC 2-4.1-1]

D.1.1 Volatile Organic Compound Emission Limitations [326 IAC 2-2-3(a)(3)][326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6] [326 IAC 2-2.5]

Pursuant to 326 IAC 2-2-3(a)(3) (PSD BACT), 326 IAC 2-2.5 (PCP), and in order to render the requirements of 326 IAC 2-4.1-1 (New Source Toxics Control) not applicable, the following limitations shall apply to the Plant 5 core making process, P43 and P44, now identified as P45, consisting of core machines and core mixers:

(a) Maximum Capacity

The maximum capacity of P45 shall not exceed 26 tons of core per hour.

(i) Pursuant to PSD 123-8451-00019, February 4, 1998: The phenolic-urethane core making process, identified as P43, shall be limited to a maximum production capacity of 20 tons of core per hour.

(ii) Pursuant to PSD 123-12948-00019, June 5, 2001 and 326 IAC 2-2-3(a)(3), the phenolic-urethane core making process, identified as P44, shall be limited to a maximum production capacity of 6 tons of cores per hour.

(b) Resin Binder

The VOC emissions from the resin of P43 (6 mixers and 6 core machines) shall not exceed 0.36 pound per ton of core.

(c) Catalyst

(i) The Permittee shall replace the use of Triethylamine (TEA) to Dimethylisopropylamine (DMIPA) as catalyst.

(ii) The VOC emissions from the DMIPA catalyst after the scrubber shall not exceed 0.04 pound per ton of core, equivalent to 1.04 pounds per hour.

(d) Scrubber

(i) The scrubber shall be operated at all times and achieve a 100% capture of the catalyst emissions, using a Permanent Total Enclosure, which complies with the requirements of 40 CFR Part 51, Appendix M, Method 24.

(ii) The scrubber shall achieve a minimum overall control efficiency of 98% of the catalyst emissions.

This condition:

(a) replaces the limits of PSD 123-8451-00019, February 4, 1998, D.2.2 VOC Emission Limitation: Pursuant to 326 IAC 2-2-3(a), the VOC emissions from the phenolic urethane core making process, identified as P43, shall not exceed 0.63 pounds per ton of core. This requirement was superseded because P43 VOC emissions is changed from 0.63 lb/ton to 0.36 lb/ton.

(b) replaces the limits of PSD 123-8451-00019, February 4, 1998, D.2.3 HAP Emission Limitation: Pursuant to 326 IAC 2-1-3.4, the TEA emissions from the core making process shall be limited to 0.18 lb TEA per ton of core. This condition is superseded because of the change from TEA to DMIPA and the rate from 0.18 lb TEA/ton to 0.04 lb DMIPA/ton.

(c) replaces the limits of PSD permit 123-12948-00019, June 5, 2001, D.2.2 (a) HAP Emission Limitation: The TEA emissions from the core making process shall be limited to 0.36 pounds per hour and 0.06 pounds per ton of cores. This condition is superseded because of the change from TEA to DMIPA and the rate from 0.06 lb TEA/ton to 0.04 lb DMIPA/ton.

(d) replaces the condition of PSD 123-8451-00019, February 4, 1998 C.15.(e) Overall Control Efficiency: The overall control efficiency of TEA shall be at least 94% to demonstrate compliance with D.2.3.This was replaced because the word TEA was changed and the efficiency was increased.

(e) replaces the condition of PSD permit 123-12948-00019, June 5, 2001, D.2.2 (b) and (c) HAP Emission Limitation: The scrubber shall be operated at all times and achieve a 100% capture of the TEA emissions using a Permanent Total Enclosure, which complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve a minimum control efficiency of 98% of TEA. This was replaced because the word TEA was changed. The operation and parameters of the scrubber did not change.

All other conditions of PSD permit 123-8451-00019 and PSD permit 123-12948-00019 are in effect.

D.1.2 Pollution Control Project [326 IAC 2-2.5]

Pursuant to 326 IAC 2-2.5, and with compliance with Condition D.1.1 of this permit, this modification is considered as pollution control project (PCP), thus it is excluded from the 326 IAC 2-2 PSD requirements.

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the scrubber.

This condition replaces the D.2.4 of PSD permit 123-12948-00019, June 5, 2001: A Preventive Maintenance Plan, in accordance with Section B- Preventive Maintenance Plan, of this permit is required for the TEA Scrubber.

Compliance Determination

D.1.4 Scrubber Operating Requirements

Pursuant to PSD permit 123-12948-00019, June 5, 2001, the scrubber shall be operated and control the catalyst emissions at the core machines at all times the core making process is in operation.

D.1.5 Performance Testing [326 IAC 3-6] [326 IAC 2-7-6(1),(6)]

(a) Within 60 days after achieving maximum production but no later than 180 days after startup of the catalyst change, the Permittee shall perform DMIPA testing on the scrubber controlling the Isocure core machines in order to demonstrate compliance with the new limit. These tests shall be performed using methods as approved by the Commissioner. The capture and control efficiencies of the scrubber shall be measured during the compliance test. The capture efficiency shall be measured using the procedures listed under 40 CFR Part 51, Appendix M, Method 204. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.

This requirement does not replace or supersede existing testing requirement.

(b) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(d) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

D.1.6 Packed Bed Scrubber Monitoring

Pursuant to PSD permit 123-12948-00019, June 5, 2001:

(a) The Permittee shall monitor and record the pH of the scrubber solution and the pressure drop across the scrubber unit at least once per shift. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the scrubber shall be maintained within the range of 2 to 5 inches of water or a range established during the latest stack test. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pH level of the scrubbing liquid shall not exceed 4.5 or a maximum established during the latest stack test. The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the pressure drop reading is outside of the normal range for any one reading or the pH level is above the normal maximum for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Preparation, Implementation, Records and Reports, shall be considered a violation of this permit. These requirements supersede Condition D.2.7(a) of CP123-8451-00019, issued on February 4, 1998.

(b) The Permittee shall continuously monitor the flow rate of the scrubbing liquid. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the flow rate shall be maintained at a minimum of 235 gallons per minute or a minimum established during the latest stack test. The Compliance Response Plan for the scrubber shall contain troubleshooting contingency and response steps for when the flow rate reading is below the normal minimum for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Preparation, Implementation, Records and Reports, shall be considered a violation of this permit.

(c) The instruments used for determining the pressure, flow rate, and pH level shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.7 Scrubber Inspections

Pursuant to PSD permit 123-12948-00019, June 5, 2001, an inspection shall be performed each calendar quarter of the scrubber controlling the core machines. All defective scrubber parts shall be replaced.

D.1.8 Scrubber Failure

Pursuant to PSD permit 123-12948-00019, June 5, 2001, in the event that scrubber failure has been observed:

(a) The affected process will be shut down immediately until the failed unit has been replaced. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

(b) Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.9 Record Keeping Requirements

Pursuant to PSD permit 123-8451, February 4, 1998, and PSD permit 123-12948-00019, June 5, 2001:

(a) To document compliance with Condition D.1.1(a), the Permittee shall maintain records of each months core production from the core machines associated with the core making process identified as P45.

(b) To document compliance with Condition D.1.5(a), the Permittee shall maintain records of the once per shift pressure drop and pH readings of the scrubber.

(c) To document compliance with Condition D.1.5(b), the Permittee shall maintain records of the flow rate readings of the scrubber.

(d) To document compliance with Conditions D.1.6, the Permittee shall maintain records of the results of the inspections and the number and type of any parts replaced.

(e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

PART 70 SIGNIFICANT SOURCE MODIFICATION CERTIFICATION

Source Name: ThyssenKrupp Waupaca, Inc.
Source Address: 9856 State Highway 66, Tell City, Indiana 47586
Mailing Address: P.O. Box 249, Waupaca Wisconsin 54981
Source Modification No.: 123-16456-00019

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this approval.

Please check what document is being certified:

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Affidavit (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Telephone:

Date:

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the Technical Support Document (TSD) for a Part 70 Significant Source Modification (SSM) and Pollution Control Project (PCP)

Source Background and Description

Source Name:	ThyssenKrupp Waupaca, Inc.
Source Location:	9856 State Highway 66, Tell City, IN 47586
Mailing Address:	P. O. Box 249, Waupaca, WI 54981
Source General Telephone Number:	715-258-1166
County:	Perry
SIC Code:	3321 (Gray and Ductile Iron Foundry)
Source Categories:	1 of 28 listed source categories (Secondary Metal Production Plant) Major PSD Source Major Source, CAA Section 112
Significant Source Modification No.:	123-16456-00019
Permit Reviewer:	Iryn Calilung

Public Notification

On January 9, 2003, the Office of Air Quality (OAQ) had a notice published in the Perry County News, Tell City, Indiana, stating that ThyssenKrupp Waupaca, Inc. had applied for a permit modification to their existing Plant 5 core making operation. The notice also stated that OAQ proposed to issue a permit for this modification and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Proposed Changes

Upon further evaluations, the OAQ re-evaluated the draft permit and makes the following changes. Changes are shown in bold font or strikeout for emphasis.

1. For clarity the following have been added:

   (a) One (1) phenolic -urethane core making process, identified as P43, consisting of 6 mixers and 6 core machines, with a total maximum production capacity of 20 tons of core per hour. VOC emissions are controlled by one (1) packed bed scrubber, identified as C14. The gases are then exhausted to Stack S14. P43 was permitted under PSD 123-8451-00019.

   (b) Two (2) new Isocure phenolic urethane cold-box core machines, identified as P44, each with a maximum capacity of 3 tons of cores per hour with VOC emissions controlled by an acid scrubber, identified as C14, and exhausting through Stack 14. P44 was permitted under PSD 123-12948-00019.

   The modification now called Phenolic Core Making **and** identified as P45, consist of **the same number** of core machines and core mixers:

(a) Change the catalyst in the core making operation from Triethylamine (TEA) to Dimethylisopropylamine (DMIPA). DMIPA is a non-HAP catalyst because it is not listed in the Section 112 of the Clean Air Act (CAA). **This change is applicable to both P43 and P44.**

(b) Improve the overall control (OE) efficiency of the scrubber from 94% to 98% by making the capture efficiency equal to 100%, and maintaining the destruction efficiency to at least 98%. **This change is applicable to P43 only, because this is already applicable to P44.**

(c) Use a low-volatile organic compound (VOC) phenolic urethane resin (PUR). **This is applicable to P43 only, because this is already applicable to P44.**

This modification can be accomplished with no new construction of emitting unit, however, the total enclosure has to be done to make the capture efficiency of the scrubber 100%. The modification is mainly change in raw material.

2. The OAQ re-evaluated which of the existing conditions the proposed change supersedes. Reasons or clarifications have also been added for documentation purposes.

D.1.1 Volatile Organic Compound Emission Limitations [326 IAC 2-2-3(a)(3)][326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6] [326 IAC 2-2.5]

Pursuant to 326 IAC 2-2-3(a)(3) (PSD BACT), 326 IAC 2-2.5 (PCP), and in order to render the requirements of 326 IAC 2-4.1-1 (New Source Toxics Control) not applicable, the following limitations shall apply to the Plant 5 core making process, identified as P45, consisting of core machines and core mixers:

(a) Maximum Capacity

The maximum capacity of P45 shall not exceed 26 tons of core per hour.

(i) Pursuant to PSD 123-8451-00019, February 4, 1998: The phenolic-urethane core making process, identified as P43, shall be limited to a maximum production capacity of 20 tons of core per hour.

(ii) Pursuant to PSD 123-12948-00019, June 5, 2001 and 326 IAC 2-2-3(a)(3), the phenolic-urethane core making process, identified as P44, shall be limited to a maximum production capacity of 6 tons of cores per hour.

(b) Resin Binder

The VOC emissions from the resin **of P43 (6 mixers and 6 core machines)** shall not exceed 0.36 pound per ton of core~~, equivalent to 9.36 pounds per hour~~.

(c) Catalyst

(i) The Permittee shall replace the use of Triethylamine (TEA) to Dimethylisopropylamine (DMIPA) as catalyst. ~~This change in catalyst is considered pollution prevention project because DMIPA is not of the 188~~

~~listed hazardous air pollutants (HAPs) under the Section 112 of the Clean Air Act (CAA).~~

Reason: This is deleted because it is only a statement, not a requirement.

(ii) The VOC emissions from the DMIPA catalyst after the scrubber shall not exceed 0.04 pound per ton of core, equivalent to 1.04 pounds per hour.

(d) Scrubber

(i) The scrubber shall be operated at all times and achieve a 100% capture of the catalyst emissions, using a Permanent Total Enclosure, which complies with the requirements of 40 CFR Part 51, Appendix M, Method 24.

(ii) The scrubber shall achieve a minimum overall control efficiency of 98% **of the catalyst emissions.**

This condition:

~~(a) replaces the D.2.4(b) of PSD 123-8451-00019, February 4, 1998:~~ The phenolic-urethane core making process, identified as P43, shall be limited to a maximum production capacity of 20 tons of core per hour.

Reason: This core production limit is not superseded because it is not affected by the change from TEA to DMIPA. The capacity of the core can not be changed because it was used in a previous PSD review and permit.

~~(b) replaces the condition D.2.3 PSD 123-12948-00019, June 5, 2001:~~ Pursuant to 326 IAC 2-2-3(a)(3), the phenolic-urethane core making process, identified as P44, shall be limited to a maximum production capacity of 6 tons of cores per hour.

Reason: This core production limit is not superseded because it is not affected by the change from TEA to DMIPA. The capacity of the core can not be changed because it was used in a previous PSD review and permit.

~~(c) replaces the limited capacity specified in the D.2.1(d) of PSD 123-12948-00019, June 5, 2001:~~ The amount of cores produced by both core machines combined, identified as P44, shall not exceed 26,000 tons per 12 consecutive month period. For the first 12 months of operation, the limit shall be 2,167 tons per month.

Reason: This limit is retained because the annual core production limit was set during a PSD BACT review to arrive to an evaluation that a RTO is not economically feasible. The change from TEA to DMIPA does not affect this PSD BACT analysis.

~~(d) removes the requirement to submit a quarterly summary of the limited core production specified in D.2.11 of PSD 123-12948-00019, June 5, 2001. This also delete the reporting form associated with this reporting requirement, however, the record keeping requirement to document the production remains as a requirement:~~ A quarterly summary of the information to document compliance with Condition D.2.1(d) shall be submitted to the address listed in

Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

Reason: **This requirement is retained because it is associated with the previous annual core production limit.**

(a) (~~e~~) replaces the limits of PSD 123-8451-00019, February 4, 1998, D.2.2 VOC Emission Limitation: Pursuant to 326 IAC 2-2-3(a), the VOC emissions from the phenolic urethane core making process, identified as P43, shall not exceed 0.63 pounds per ton of core.

Reason: **This requirement was superseded because P43 VOC emissions is changed from 0.63 lb/ton to 0.36 lb/ton.**

~~(f) replaces the limits of PSD permit 123-12948-00019, June 5, 2001, D.2.1(a) VOC Emission Limitation:~~ The non-TEA volatile organic compound (VOC) emissions from both of the phenolic-urethane core machines, identified as P44, shall not exceed 1.836 pounds per hour (total for both machines combined) and 0.010 pounds per pound of binder used. The Department may revise this permit to adjust the non-TEA VOC limitation based upon the results of the stack test required in Condition D.2.6. The Department will provide an opportunity for public notice and comment prior to finalizing any permit revision. IC 13-15-7-3 (Revocation or Modification of a Permit: Appeal to Board) shall apply to this permit condition.

Reason: **This requirement is retained because it is not affected by the change from TEA to DMIPA.**

(b) (~~g~~) replaces the limits of PSD 123-8451-00019, February 4, 1998, D.2.3 HAP Emission Limitation: Pursuant to 326 IAC 2-1-3.4, the TEA emissions from the core making process shall be limited to 0.18 lb TEA per ton of core.

Reason: **This condition is superseded because of the change from TEA to DMIPA and the rate from 0.18 lb TEA/ton to 0.04 lb DMIPA/ton.**

(c) ~~(h)~~ replaces the limits of PSD permit 123-12948-00019, June 5, 2001, D.2.2 (a) HAP Emission Limitation: The TEA emissions from the core making process shall be limited to 0.36 pounds per hour and 0.06 pounds per ton of cores.

Reason: **This condition is superseded because of the change from TEA to DMIPA and the rate from 0.06 lb TEA/ton to 0.04 lb DMIPA/ton.**

(d) ~~(i)~~ replaces the condition of PSD 123-8451-00019, February 4, 1998 C.15.(e) Overall Control Efficiency: The overall control efficiency of TEA shall be at least 94% to demonstrate compliance with D.2.3.

Reason: **This was replaced because the word TEA was changed and the efficiency was increased.**

(e) ~~(j)~~ replaces the condition of PSD permit 123-12948-00019, June 5, 2001, D.2.2 (b)

and (c) HAP Emission Limitation: The scrubber shall be operated at all times and achieve a 100% capture of the TEA emissions using a Permanent Total Enclosure, which complies with the requirements of 40 CFR Part 51, Appendix M, Method 24. The scrubber shall achieve a minimum control efficiency of 98% of TEA

Reason: **This was replaced because the word TEA was changed. The operation and parameters of the scrubber did not change.**

All other conditions of PSD permit 123-8451-00019 and PSD permit 123-12948-00019 are in effect.

It was also re-evaluated that testing will be required for the scrubber to verify compliance with the DMIPA emission rate. This testing requirement does not supersede existing testing requirement previously specified to be performed.

D.1.5 Performance Testing [326 IAC 3-6] [326 IAC 2-7-6(1),(6)]

(a) **Within 60 days after achieving maximum production but no later than 180 days after startup of the catalyst change, the Permittee shall perform DMIPA testing on the scrubber controlling the Isocure core machines in order to demonstrate compliance with the new limit. These tests shall be performed using methods as approved by the Commissioner. The capture and control efficiencies of the scrubber shall be measured during the compliance test. The capture efficiency shall be measured using the procedures listed under 40 CFR Part 51, Appendix M, Method 204. These tests shall be repeated at least once every five (5) years from the date of this valid compliance demonstration.**

This requirement does not replace or supersede existing testing requirement.

(b) **All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.**

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).

(c) **The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the "responsible official" as defined by 326 IAC 2-7-1(34).**

(d) **Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not**

later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

On January 31, 2003, Steven Klafka of Wingra Engineering, in behalf of ThyssenKrupp Waupaca, Inc., submitted comments on the draft permit. It was recommended to supersede the entire permits which regulates the core making operations and if this is not possible, there are additional compliance monitoring, record keeping and reporting requirements in these 2 permits that were overlooked. These conditions are D.2.7 and D.2.8(a)(2) of Permit 123-8451-00019; D.2.1(b)(c), D.2.4, D.2.5, D.2.7, D.2.8, D.2.9 and D.2.10 of Permit 123-12948-00019.

As previously indicated in the technical support document included in the public review of the draft permit, the 2 existing permits are PSD permits, and have other permit conditions that deal with other processes and were not affected by the proposed core making modification, thus it is not regulatory possible to supersede the entire permits.

These are the existing conditions that ThyssenKrupp Waupaca, Inc. indicated should be superceded:

(1) PSD permit 123-12948-00019, June 5, 2001, D.2.1(b) and (c):

(b) The VOC emissions from both the mixers, identified as P44, shall not exceed 0.324 pounds per hour (total for both mixers combined) and 0.002 pounds per hour of binder used. The Department may revise this permit to adjust the VOC limitation based upon the results of the stack test required in D.2.6. The Department will provide an opportunity for public notice and comment prior to finalizing any permit revision. IC 13-15-7-3 (Revocation or Modification of a Permit: Appeal to Board) shall apply to this permit condition.

(c) The amount of binder used in both mixers combined shall not exceed 390 tons per 12 consecutive month period. For the first 12 months of operation, the limit shall be 32.5 tons per month.

Response: This portion of this condition is not superseded because the change from TEA to DMIPA is independent of this requirement.

(2) This is the existing condition: D.2.4 of PSD permit 123-12948-00019, June 5, 2001: A Preventive Maintenance Plan, in accordance with Section B- Preventive Maintenance Plan, of this permit is required for the TEA Scrubber.

This is the proposed condition:
D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]
A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the scrubber.

Response: The OAQ agreed that this new condition replaces the previous condition because of the removal of the word TEA.

(3) This is the existing condition:
PSD permit 123-12948-00019, June 5, 2001, D.2.5:
The scrubber shall be operated and control TEA emissions at the core machines at all times when either core machine is in operation to demonstrate compliance with Operation Condition D.2.2.

This is the proposed condition:
D.1.4 Scrubber Operating Requirements
The scrubber shall be operated and control the catalyst emissions at the core machines at all times when either core machine is in operation.

Response: **The OAQ agreed that this new condition replaces the previous condition because of the removal of the word TEA. The requirement to operate the scrubber at all times remains the same.**

(4) Similar conditions have been incorporated to the proposed permit:

(A) D.2.7 of PSD permit 123-8451, February 4, 1998, and D.2.7 of PSD permit 123-12948-00019, June 5, 2001 - - D. 2.7 Packed Bed Scrubber Monitoring

(B) D.2.8 of PSD permit 123-12948-00019, June 5, 2001 - - Scrubber Inspections

(C) D.2.9 of PSD permit 123-12948-00019, June 5, 2001 - - Scrubber Failure

(D) D.2.8(a)(2) of PSD permit 123-8451, February 4, 1998, and D.2.10 of PSD permit 123-12948-00019, June 5, 2001. Record Keeping Requirements

Response: **Since the same exact conditions were incorporated in the proposed permit, it is not necessary to supersede the conditions. These conditions are re-stated in this proposed permit to make the document stand by itself and for convenience. To make it clearer, the PSD permits are referenced to point out where they were originally required.**

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Part 70
Significant Source Modification (SSM) and Pollution Control Project (PCP)

Source Background and Description

Source Name:	ThyssenKrupp Waupaca, Inc.
Source Location:	9856 State Highway 66, Tell City, IN 47586
Mailing Address:	P. O. Box 249, Waupaca, WI 54981
Source General Telephone Number:	715-258-1166
County:	Perry
SIC Code:	3321 (Gray and Ductile Iron Foundry)
Source Categories:	1 of 28 listed source categories (Secondary Metal Production Plant) Major PSD Source Major Source, CAA Section 112
Significant Source Modification No.:	123-16456-00019
Permit Reviewer:	Iryn Calilung

Company Name Change

Waupaca Foundry, Inc. informed the Office of Air Quality (OAQ) of the change in company name to ThyssenKrupp Waupaca, Inc. This name change is in effect since October, 2002 and does not reflect a change in ownership.

History

In 1998, ThyssenKrupp Waupaca, Inc. Plant 5 core making process, identified as P43, was permitted under a Prevention of Significant Deterioration (PSD) permit for 20 tons/hour maximum capacity. In 2001, an expansion project for additional 6 tons/hour capacity, identified as P44, was permitted in an another PSD permit. Both the P43 and P44 are controlled by a scrubber. P43 is operating under PSD permit 123-8451-00019, issued on February 4, 1998. P44 is operating under PSD 123-12948-00019, issued on June 5, 2001.

The main goals of this proposed modification, which is going to be identified as P45, are to:

(1) Make the two (2) core making permits and limits consistent.

(2) Reduce emissions by changing the catalyst.

(3) Eliminate the use of hazardous air pollutant (HAP).

(4) Increase the overall efficiency of the existing scrubber.

The proposed modification will be evaluated as a Pollution Control Project (PCP). Detailed evaluation is shown in the subsequent pages.

Proposed Modification

ThyssenKrupp Waupaca, Inc. submitted an application relating to the modification of their

existing Plant 5 core making operation. This proposed modification, identified as P45-Phenolic Urethane Core Making is to:

(1) Change the catalyst in the core making operation from Triethylamine (TEA) to Dimethylisopropylamine (DMIPA) for both the 20 tons/hour (P43) and 6 tons/hour (P44) core making processes.

One main advantage in changing the catalyst is that the new one is not listed in the Clean Air Act (CAA) list of 188 hazardous air pollutants, thus in using it, HAP usage and emissions will be eliminated. At the same time, due to toxicity, ThyssenKrupp Waupaca, Inc. is proposing to reduce the catalyst usage rate from 3 pounds per ton of core to 2 pounds per ton of core, thus there will be a corresponding reduction in volatile organic compound (VOC) emissions.

Table 1 below shows the comparison between the existing and proposed catalysts.

Table 1

Chemical Name	TEA	DMIPA
CAS No.	121-44-8	996-35-0
Synonym	N,N-Diethylethanamine	isopropyldimethylamine
Formula	C6H15N	C9H13N
Appearance	clear and colorless liquid and has strong ammonia-like odor	also belongs to the product group amines
Uses	as an agent for preparation of quaternary ammonium compounds; accelerator activators for rubber; in wetting, penetrating, and waterproofing; a warning agent in natural gas curing and hardening of polymers; corrosion inhibitor; in disinfectants; propellant; foundry resin catalyst; pesticides as an insect attractant; paints/coatings; pharmaceuticals; and as phenolic resin catalyst	in quaternary ammonium compound, corrosion inhibitors, dyes, polymers, pharmaceuticals, crop protection agents, pesticides, stabilizer for chlorinated hydrocarbons, foundry industry, PUR catalyst, which are similar to the uses of TEA..
OSHA Regulated	Yes	Yes
HAPs	Yes	CAS number is not in the list of 188 HAPs in Section 112(b) of the CAA.
Cost	DMIPA is approximately 2.5 times the cost of TEA.	

(2) Improve the overall control (OE) efficiency of the scrubber from 94% to 98% in the 20 tons per hour (P43) core making process. This scrubber is used to control the catalyst. This increase in efficiency can be attained by making the capture efficiency equal to 100%, and maintaining the destruction efficiency to at least 98%. This increase in OE of the scrubber will make the requirements consistent to both P43 and P44.

(3) Use a low-volatile organic compound (VOC) phenolic urethane resin (PUR) in the 20 tons/hour (P43) core making operation. The use of this PUR in P43 will make it consistent with the PUR usage in P44.

This proposed modification can be accomplished with no new construction of emitting unit, however, the total enclosure has to be done to make the capture efficiency of the scrubber 100%. The proposed modification is mainly change in raw material. The change is scheduled to happen

in January, 2003.

Table 2 below summarizes the existing PSD BACT requirements and the proposed modification.

Table 2

Existing Permit	PSD 123-8451-00019 issued on February 4, 1998	PSD 123-12948-00019 issued on June 5, 2001	SSM 123-16456-00019 (proposed modification)
Operation	20 tons of core per hour (P43)	6 tons of core per hour (P44)	26 tons of core per hour (P45)
BACT Limit	Catalyst: (a) Overall scrubber efficiency for TEA = 94% (b) TEA = 0.18 lb/ton of core	Catalyst: (a) Overall scrubber efficiency for TEA = 98% (b) TEA = 0.06 lb/ton of core = 0.36 lb/hr	Catalyst: (a) Overall scrubber efficiency for DMIPA = 98% (b) DMIPA = 0.04 lb/ton of core = 1.04 lb/hr
	Resin: (c) Total VOC = 0.63 lb/ton of core Resin = 0.45 lb/ton	Resin: (c) Non-TEA VOC for the core machines = 1.836 lb/hour = 0.01 lb/lb of binder	Resin: (c) Total VOC = 0.36 lb/ton = 9.36 lb/hr
	(20 tons/hour)(8760hour/year) = 175,200 tons/year	26,000 tons/year of cores	(26 tons/hour)(8760 hr/yr) = 227,760 tons/year
Control	existing scrubber (C14) - --100% capture efficiency and 98% destruction efficiency		
Stack	existing S14 - -- 65 feet in height; 3 feet in diameter; 34,000 acfm flow rate; and 80^0F		

Emission Calculations

The VOC PTE is based on the following:

(1) Maximum capacity is 26 tons of core per hour. This is the sum of the 2 core making processes (20 tons/hour and 6 tons/hour).

(2) IDEM used information obtained from Ashland Chemical, the binder supplier, in order to estimate evaporative losses from the binder system. This is the same information used in the most recent ThyssenKrupp Waupaca, Inc. core making PSD modification.

(3) Total emission factor (EF) for the core machine and mixers =
(0.012 lb/lb resin)(1.5% resin)(2000 lb/ton) = 0.36 lb VOC/ton core

(4) Mixer EF = (0.117 lb/ton)(1.5%/1.29%)(0.012 lb/lb resin/0.03 lb/lb resin)
= 0.05 lb VOC/ton core

(5) Core machine EF = 0.36-0.05 = 0.31 lb/ton of core.

(6) Estimated resin VOC emission distribution is 15% from mixing and 85% from core machine.

(7) Resin is at 1.5% by weight to sand ratio.

(8) Overall efficiency (OE) of the scrubber is 98%. This is based on 100% capture efficiency and 98% destruction efficiency.

Table 3 shows the VOC PTE and methodology.

Table 3				
VOC	Emission Factor (lb/ton)	PTE tons/year (uncontrolled)	Control	PTE tons/year (controlled)
Catalyst (DMIPA)	2	227.8	Scrubber *	4.6
Resin	0.36	41	No control	41
(Core Machine)	0.31			
(Mixer)	0.05			
Total		268.8		**45.6**

Methodology:
PTE VOC uncontrolled in tons/year = (EF lb/ton)(Maximum Capacity tons/hour)(8760 hours/year)(1 ton/2000 lb)
PTE VOC controlled in tons/year = (PTE VOC uncontrolled)(1-98% OE)
PTE VOC controlled in tons/year = PTE VOC uncontrolled with no control
* The catalyst EF after control = (2 lb/ton)(1-0.98) = 0.04 lb/ton of core.

Potential To Emit of Modification (Core Making Process Only)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Both permits for the Plant 5 core making process (123-8452 -00019, February 4, 1998 and 123-12948-00019, June 5, 2001) were issued under 326 IAC 2-2 PSD which is a federally enforceable program, therefore, the PTE for this modification is based on the controlled PTE after the scrubber.

Table 4 shows the total VOC PTE after control.

Table 4	
Pollutant	Potential To Emit (tons/year)
PM	-
PM-10	-
SO_2	-
VOC	**45.6**
CO	-
NO_x	-

Pollution Control Project (PCP) Exclusion

Pursuant to 326 IAC 2-2.5-2(b)(1)(H), a proposed modification can be a PCP if it is a pollution prevention project that the IDEM has determined to be environmentally beneficial.

Table 5 shows the evaluations to determine if the proposed modification is a PCP.

Table 5		
Rule 326 IAC	Criteria	Evaluations
2-2.5-2(b) & 2-2.1-1(13)	PCP means an activity or project undertaken at an existing emission unit for the purposes of reducing emissions.	The proposed modification is to: change the catalyst from a HAP to a non-HAP catalyst; use less catalyst; and to increase the efficiency of the scrubber. The intention of this modification is to reduce emissions.
2-2.5-2(b)(1)(H)	PCP is a pollution prevention project that IDEM has determined to be environmentally beneficial.	This is also being considered a pollution prevention project because in changing the catalyst, air toxic emissions will be eliminated.
2-2.5-2(b)(2) & 2-2.1-1(13)	PCP does not include the replacement of an existing emission unit with a newer or different unit.	There will be no construction of new emitting unit in this proposed modification. The core making operation is not being replaced. This modification is change in raw material and its usage rate and increasing the efficiency of the existing scrubber.
2-2.5(d)(1)	Types and quantity of air pollutants emitted before and after the project.	The VOC PTE will be reduced by **19.23 tons/year.** TEA (a HAP) emissions will be eliminated.
2-2.5(d)(2)	Increase in pollutants other than those targeted in the project shall be reviewed, has to be minimized and does not result in environmental harm	No other pollutant is expected to be emitted. There is no collateral emission expected.
2-2.5(d)(3)	Result in an unacceptable increase risk due to the release of air toxics is not environmentally beneficial.	There is a decrease/elimination of air toxic emissions, because DMIPA is not considered a HAP.
	Pollution Control	The overall control efficiency of the existing scrubber will be increased from 94% to 98%. This changed will be accomplished by making the capture efficiency equal to 100%, using a Permanent Total Enclosure, which complies with the requirements of 40 CFR Part 51, Appendix M, Method 24.
2-2.5(b)	A PCP that causes a significant net emission increase pursuant to 326 IAC 2-2 must be approved by US EPA under the SIP prior to beginning actual construction.	VOC net emission increase = **17.43 tons/year** The net emission increase is not significant because it is less than the VOC PSD significant level of 40 tons/year, therefore, this PCP is not required to be submitted as SIP to US EPA.
2-2.5(b)	To obtain an approval for a PCP, the applicant shall submit a SSM application.	ThyssenKrupp Waupaca, Inc. submitted a SSM application on November 6, 2002.
	Cross Media Evaluation	There is no need to perform a cross media evaluation.
	Cause and Contribute Test	Since there is no collateral emission expected, and this source is located in an attainment status, this test does not apply.
Conclusion	Based on the evaluations and fulfillment of the PCP criteria, this proposed modification is considered a PCP.	

Pursuant to 40 CFR 52.21(b)(2)(iii)(h) and 40 CFR 52.21(b)(32), PCP definition and criteria do not

apply to this proposed modification because these specific rules are for existing electric utility steam generating unit.

At this time, federal rules 40 CFR Part 52.21 and 40 CFR Part 51.166 do not have any provisions in effect for a PCP that is for a non-electric utility steam generating modification. However, on November 22, 2002, US EPA announced, among other NSR revisions, a final action to encouraged a streamlined permitting process for PCP. Based on this NSR revision, scrubber is one of the listed environmentally beneficial PCP. It was also recommended that even though the PCP clearly indicates a control to be under PCP exclusion, the permitting agency may still perform the PCP exclusion evaluation. Since the NSR revision is new and will not be in effect until after 60 days of its publication in the Federal Register, OAQ will continue with the usual evaluation if the proposed modification is a PCP.

(1) PTE to PTE Comparison

(a) PTE of the Existing Core Making P43 and P44:

TEA = (3 lb/ton)(20 ton/hr)(8760 hr/yr)(1 ton/2000 lb)(1 -94%) = 15.8 tons/yr
TEA = (3 lb/ton)(6 tons/yr)(8760 hr/yr)(1 ton/2000 lb)(1-98%) = 1.57 tons/yr
Resin = (0.45 lb/ton)(20 tons/hr)(8760/yr)(1 ton/2000) = 39.42 tons/yr
Resin = (1.836 lb/hr)(8760 hr/yr)(1 ton/2000) = 8.04 tons/yr
Total = 64.83 tons/yr

(b) PTE of the Proposed Core Making Modification P45:
DMIPA = (2 lb/ton)(26 tons/hr)(8760 hr/yr)(1 ton/2000) (1-98%) = 4.6 tons/yr
Resin = (0.36 lb/ton)(26 tons/hr)(8760 hr/yr)(1 ton/2000) = 41 tons/yr
Total = 45.6 tons/yr

(c) PTE difference = 64.83 -45.6 = **19.23 tons/year.**

The PTE comparison shows a decrease in VOC PTE with the change of catalyst from TEA to DMIPA, thus the proposed modification is considered a pollution control project.

(2) Projected Actual to Past Actual

Based on the new NSR revisions announced by US EPA, the baseline in determining past actual emissions can be any 24-consecutive month period in a 10-year period before the proposed change. For this specific proposed modification, the 24-consecutive month period are the most recent 24 months that data is available.

In the same recently announced NSR revision, net environmental benefit can be determine by using the Projected Actual to Past Actual comparison.

At this time, it will be assumed that the anticipated and projected actual emission will be equal to the PTE of the modification. In doing this, the increase in actual emissions is conservatively estimated. Based on the calculation below the worst case estimated increase in actual emissions is less than the VOC PSD Significant level of 40 tons/year.

(a) Actual emissions of the 20 tons/hour:
The 24-consecutive month period taken into consideration is from July, 2000 to June 2002. Actual emissions were based on:
(i) The actual TEA usage.

(ii) 1.3% ratio of resin to sand

(iii) Scrubber OE = 98%

Determination and calculations of the actual emissions provided by ThyssenKrupp Waupaca, Inc. have been verified and found to be accurate. The actual emissions of the 20 ton/hour core making process is 17.1 tons/year

(b) Actual emissions of the 6 tons/hour = 11.07 tons/year
Since this phase of the core making process was just recently permitted under 326 IAC 2-2 and PSD permit 123-12948-00019 issued on June 5, 2001, the actual emissions will be the allowable emissions specified in the PSD permit.

(c) Total actual emissions = 17.1 + 11.07 = **28.17 tons/year**

(d) The anticipated actual emissions of the core making machine will be assumed equal to the PTE.

(e) Actual emission increase = Net emission Increase
= PTE - Past Actual = 45.6 - 28.17
= **17.43 tons/year**

Increase Utilization

Increase utilization of existing processes was already taken into account during the permitting process of the 6 tons/hour core making process. There will be no additional increase in utilization due to this proposed modification.

Based on the recently published NSR revisions (November 22, 2002), a PCP will be excluded from this evaluation.

Air Pollution Control Justification as an Integral Part of the Process

The existing scrubber was permitted in 2 PSD permits, thus potential to emit (PTE) was evaluated after the control.

Justification for Modification

The source is being modified through a Part 70 Significant Source Modification (SSM).

(1) Pursuant to 326 IAC 2-7-10.5(f)(4)(D), a modification with VOC PTE greater than 25 tons/year shall be processed as SSM.

(2) Pursuant to 326 IAC 2-7-10.5(f)(8) and (f)(9), PCP is to be process as a SSM.

(3) 326 IAC 2-2.5(b) also confirms that a PCP is an application to be process as a SSM.

The recently announced NSR revision confirms that PCP exclusion does not exempt the proposed modification from state permitting requirement. US EPA indicated that upon submission of the PCP exclusion notice to the state permitting agency, construction may start immediately, however, at this time, IDEM requires that PCP has to be process as SSM, thus the construction may not start until a modification approval has been issued.

Enforcement Issue

There are no enforcement actions pending on this Plant 5 core making process.

Source Status

Pursuant to 40 CFR Part 52.21(b)(i)(a) and 326 IAC 2-2-1(y)(1)(T), this existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 100 tons per year or more, and it is one of the 28 listed source categories.

The ThyssenKrupp Waupaca, Inc. Part 70 application (identified as 123-9234-00019) was submitted on November 20, 1997 and is under review.

County Attainment Status

The source is located in Perry County. Table 6 shows the attainment status of Perry County.

Table 6

Pollutant	Status
PM-10	Attainment
SO_2	Attainment
NO_2	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

(1) Volatile organic compounds (VOC) and Ozone

VOC are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Perry County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(2) Criteria Pollutants

Perry County has been classified as attainment or unclassifiable for all the other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(3) Fugitive Emissions

Since this type of operation is one of the 28 listed source categories under 40 CFR Part 52.21(b)(i)(c)(iii)(s) and 326 IAC 2-2-1(y)(1)(T) and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are counted toward determination of PSD and Emission Offset applicability.

Potential to Emit of Modification After Issuance of the SSM

Table 7 below summarizes the potential to emit, reflecting all limits, of the significant emission

units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

The net emissions increase was based on the PTE minus Past Actual methodology only. It is not necessary to determine any other increases or decreases in actual emissions that are contemporaneous with the change because pursuant to 40 CFR Part 52.21(b)(3)(iii), any increase and decreases in actual emissions is creditable only if EPA and IDEM has not relied on it in issuing a PSD permit. The core making processes have been issued and operating under PSD permits.

Based on the recent NSR revisions (November 22, 2002), the net emissions increase can also be determine by using the Projected Actual minus the Past Actual methodology. In any scenarios, the proposed modification arrives at the same conclusion. In relying to the original PTE-Past actual determination, the applicant does not need to keep track for the next 5 to 10 years of the increase in actual emissions.

Table 7	
Core Making Process (P45)	VOC (tons/year)
PTE After Control	**45.6**
Past Actual Emissions	**28.17**
Net Emissions Increase	**17.43**
PSD Significant level	40

This modification to this existing major stationary source is not major because:

(1) The net emissions increase is not significant because it is less than the PSD significant level.

(2) Pursuant to 326 IAC 2-2.5 (1)(a), PCP at an existing source shall not constitute a major modification under 326 IAC 2-2-1(x).

Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Federal Rule Applicability

(1) New Source Performance Standards (NSPS)

There are no NSPS (326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.

(2) National Emission Standards for Hazardous Air Pollutants (NESHAP)

There are no NESHAP (326 IAC 14, 40 CFR Part 61, and and 40 CFR Part 63) applicable to this proposed modification.

(3) Section 112(j) of the Clean Air Act (CAA)

ThyssenKrupp Waupaca, Inc is subject to the Section 112(j) of the CAA because the source is consider a major source for HAPs.

ThyssenKrupp Waupaca, Inc. submitted their Part 1 application on April 17, 2002. This source did not request for a CAA Section 112(j) application determination. At this time, the Part 2 MACT application is due on April 17, 2004.

The NESHAP 40 CFR Part 63 Subpart EEEEE for iron foundries is tentatively schedule to be drafted for the fiscal year 2003. For updated status of this, the applicant may refer to the following website: http://www.epa.gov/ttn/atw/eparules.html

Based on the Section 112(j) Part 2 MACT application requirement, the following condition will be added to this SSM:

C.16 Application Requirements for Section 112(j) of the Clean Air Act [40 CFR 63.52(e)] [40 CFR 63.56(a)] [40 CFR 63.9(b)] [326 IAC 2-7-12]

(a) The Permittee shall submit a Part 2 MACT Application in accordance with 40 CFR 63.52(e)(1). The Part 2 MACT Application shall meet the requirements of 40 CFR 63.53(b).

(b) Notwithstanding paragraph (a), the Permittee is not required to submit a Part 2 MACT Application if the Permittee no longer meets the applicability criteria of 40 CFR 63.50 by the application deadline in 40 CFR 63.52(e)(1). For example, the Permittee would not have to submit a Part 2 MACT Application if, by the application deadline:

(1) The source is no longer a major source of hazardous air pollutants, as defined in 40 CFR 63.2;

(2) The MACT standard or standards for the affected source categories included at the source are promulgated.

(c) Notwithstanding paragraph (a), pursuant to 40 CFR 63.56(a), the Permittee shall comply with an applicable promulgated MACT standard in accordance with the schedule provided in the MACT standard if the MACT standard is promulgated prior to the Part 2 MACT Application deadline or prior to the issuance of permit with a case-by-case Section 112(j) MACT determination. The MACT requirements include the applicable General Provisions requirements of 40 CFR 63, Subpart A. Pursuant to 40 CFR 63.9(b), the Permittee shall submit an initial notification not later than 120 days after the effective date of the MACT, unless the MACT specifies otherwise. The initial notification shall be submitted to:

**Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015**

and

**United States Environmental Protection Agency, Region V
Director, Air and Radiation Division**

77 West Jackson Boulevard
Chicago, Illinois 60604-3590

(4) Prevention of Significant Deterioration (PSD) 40 CFR 52.21

This proposed modification is not subject to PSD review and requirements because of the PCP exclusion and supplemented by the fact that the net emission increase is less than the PSD significant level.

(5) Compliance Assurance Monitoring (CAM) 40 CFR Part 64

This 26 tons/hour core making process has a VOC PTE before control greater than the Part 70 major source level, thus pursuant to 40 CFR 64.2(a), CAM applies. However, pursuant to 40 CFR Part 64.5(b), units with actual emissions (after control) less than the Part 70 major source level shall submit the plan as part of the Part 70 permit application renewal. Since the initial Part 70 permit has not been issued yet, the CAM plan for the core making process is not required at this time.

State Rule Applicability - Individual Facilities

(1) 326 IAC 2-2 PSD

As indicated in the PCP evaluation, this proposed modification is not subject to the PSD requirements and review process. However, even though the proposed modification is not being reviewed under PSD program, the scrubber and new resin and catalyst limits are more stringent than the already existing PSD limits.

(2) 326 IAC 1-6-3 and 326 IAC 2-7-5(13) Preventive Maintenance Plan (PMP)

Existing PSD permit 123-12948-00019, issued on June 5, 2001 already requires a PMP for the scrubber. It has been evaluated that a PMP is not required for the core machines since there are no maintenance procedures that can be performed which would affect emissions.

(3) 326 IAC 8-1-6 State BACT Requirements

Compliance with the VOC limits and scrubber requirements under 326 IAC 2-2 PSD will be consider in compliance with the state BACT requirements under 326 IAC 8-1-6.

Air Quality Impact Analysis

Pursuant to 326 IAC 2-2.5(e), IDEM may request the applicant to submit an air quality impact analysis of the net emissions increase of the PCP. No air quality impact analysis will be performed because:

(1) There is no other pollutant (collateral) that will be emitted with this proposed modification.

(2) The VOC net increase is less than the significant level after taking into account actual emissions.

(3) The source is located in an attainment area.

(4) The source is not within the 50 mile radius of a Federal Class I area.

Testing Requirements

(1) 26 tons/hour core making (P43)

On December 13, 2000, ThyssenKrupp Waupaca, Inc., performed a VOC test from the 26 tons/hour core making process to be used for the permitting of 6 tons/hour expansion, however, the test were not used due to quality assurance and control problems.

(2) 6 tons/hour core making (P44)

The PSD permit 123-12948-00019, issued on June 5, 2001, required a compliance test within 60 days after achieving maximum production, but no later than 180 days after start up. D.2.6, in part, requires the Permittee shall perform TEA testing on the scrubber controlling the core machines in order to demonstrate compliance with the TEA emission limit and scrubber operating parameters.

On December 26, 2002, ThyssenKrupp Waupaca, Inc. submitted the affidavit of construction for the 6 tons/hour core making expansion which serves as notification of the start of its operation.

On February 21, 2002, ThyssenKrupp Waupaca, Inc. initially submitted a test protocol to OAQ. After numerous re-submission of the test protocol and testing date rescheduled, the test was finally performed on September 24, 2002.

(3) 26 tons/hour core making (P45)

Since the most recent test performed for the scrubber and core making process is within one year of the proposed modification and the test results show that the 100% enclosure was in compliance, and the catalyst and resin emission rates are within the specified limits, there will be no additional testing requirement at this time. However, during the review process of the applicant's Part 70 application, compliance test will be re-evaluated again.

Compliance Requirements

The most recent issued PSD permit for the core making process has already indicated compliance monitoring for the scrubber (parameters, frequency, record keeping and reporting requirements). The same compliance monitoring requirements will be applicable. None of the compliance monitoring requirements have been changed or relaxed.

Proposed Permit Conditions

Since there are 2 separate permits that need to be revised, and each of them have other permit conditions that will not be affected by this proposed core making modification, the SSM and PCP approval will only deal with the core making conditions that will be changed. Any existing conditions for the core making and other processes that are not specified to be replaced remain in effect.

Based on the above review process, the following 2 conditions are the recommended revisions, for emphasis the proposed changes are shown in bold font:

D.1.1 Volatile Organic Compound Emission Limitations [326 IAC 2-2-3(a)(3)][326 IAC 2-2-3(a)(3)] [326 IAC 8-1-6] [326 IAC 2-2.5]

Pursuant to 326 IAC 2-2-3(a)(3) (PSD BACT), 326 IAC 2-2.5 (PCP), and in order to render the requirements of 326 IAC 2-4.1-1 (New Source Toxics Control) not applicable, the following limitations shall apply to the Plant 5 core making process, identified as P45, consisting of core machines and core mixers:

(a) Maximum Capacity

The maximum capacity of P45 shall not exceed 26 tons of core per hour.

(b) Resin Binder

The VOC emissions from the resin shall not exceed 0.36 pound per ton of core, equivalent to 9.36 pounds per hour.

(c) Catalyst

(i) The Permittee shall replace the use of Triethylamine (TEA) to Dimethylisopropylamine (DMIPA) as catalyst. This change in catalyst is considered pollution prevention project because DMIPA is not of the 188 listed hazardous air pollutants (HAPs) under the Section 112 of the Clean Air Act (CAA).

(ii) The VOC emissions from the DMIPA catalyst after the scrubber shall not exceed 0.04 pound per ton of core, equivalent to 1.04 pounds per hour.

(d) Scrubber

(i) The scrubber shall be operated at all times and achieve a 100% capture of the catalyst emissions, using a Permanent Total Enclosure, which complies with the requirements of 40 CFR Part 51, Appendix M, Method 24.

(ii) The scrubber shall achieve a minimum overall control efficiency of 98%.

This condition:

(a) replaces the D.2.4(b) of PSD 123-8451-00019, February 4, 1998: The phenolic-urethane core making process, identified as P43, shall be limited to a maximum production capacity of 20 tons of core per hour.

(b) replaces the condition D.2.3 PSD 123-12948-00019, June 5, 2001: Pursuant to 326 IAC 2-2-3(a)(3), the phenolic-urethane core making process, identified as P44, shall be limited to a maximum production capacity of 6 tons of cores per hour.

(c) replaces the limited capacity specified in the D.2.1(d) of PSD 123-12948-00019, June 5, 2001: The amount of cores produced by both core machines combined, identified as P44, shall not exceed 26,000 tons per 12 consecutive month period. For the first 12 months of operation, the limit shall be 2,167 tons per month.

(d) removes the requirement to submit a quarterly summary of the limited core production specified in D.2.11 of PSD 123-12948-00019, June 5, 2001. This also delete the reporting form associated with this reporting requirement, however, the record keeping requirement to document the production remains as a requirement: A quarterly summary of the information to document compliance with Condition D.2.1(d) shall be submitted to the address listed in Section C - General Reporting Requirements, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

(e) replaces the limits of PSD 123-8451-00019, February 4, 1998, D.2.2 VOC Emission Limitation: Pursuant to 326 IAC 2-2-3(a), the VOC emissions from the phenolic urethane core making process, identified as P43, shall not exceed 0.63 pounds per ton of core.

(f) replaces the limits of PSD permit 123-12948-00019, June 5, 2001, D.2.1(a) VOC Emission Limitation: The non-TEA volatile organic compound (VOC) emissions from both of the phenolic-urethane core machines, identified as P44, shall not exceed 1.836 pounds per hour (total for both machines combined) and 0.010 pounds per pound of binder used. The Department may revise this permit to adjust the non-TEA VOC limitation based upon the results of the stack test required in Condition D.2.6. The Department will provide an opportunity for public notice and comment prior to finalizing any permit revision. IC 13-15-7-3 (Revocation or Modification of a Permit: Appeal to Board) shall apply to this permit condition.

(g) replaces the limits of PSD 123-8451-00019, February 4, 1998, D.2.3 HAP Emission Limitation: Pursuant to 326 IAC 2-1-3.4, the TEA emissions from the core making process shall be limited to 0.18 lb TEA per ton of core.

(h) replaces the limits of PSD permit 123-12948-00019, June 5, 2001, D.2.2 (a) HAP Emission Limitation: The TEA emissions from the core making process shall be limited to 0.36 pounds per hour and 0.06 pounds per ton of cores.

(i) replaces the condition of PSD 123-8451-00019, February 4, 1998 C.15.(e) Overall Control Efficiency: The overall control efficiency of TEA shall be at least 94% to demonstrate compliance with D.2.3.

(j) replaces the condition of PSD permit 123-12948-00019, June 5, 2001, D.2.2 (b) and (c) HAP Emission Limitation: The scrubber shall be operated at all times and achieve a 100% capture of the TEA emissions using a Permanent Total Enclosure, which complies with the requirements of 40

CFR Part 51, Appendix M, Method 24. The scrubber shall achieve a minimum control efficiency of 98% of TEA

D.1.2 Pollution Control Project [326 IAC 2-2.5]
Pursuant to 326 IAC 2-2.5, and with compliance with Condition D.1.1 of this permit, this modification is considered as pollution control project (PCP), thus it is excluded from the 326 IAC 2-2 PSD requirements.

Recommendation

Based on the facts, conditions and evaluations made, OAQ recommends to the IDEM Commissioner that the Part 70 Significant Source Modification (SSM) and pollution control project (PCP) be approved made available to the public and interested parties for review.

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on November 6, 2002. Additional information was received on November 13, 2002 and December 3, 2002.

In addition to the air pollution control requirements, the applicant has fulfilled the following administrative requirements:

(1) The applicant has provided a copy of the application to the Tell City-Perry county Public Library, 2328 Tell Street, Tell City, IN 47586.

(2) The applicant indicated that the following government officials should be notified of this proposed modification:
(a) Mayor of Tell City
(b) Tell City Town Council President and
(c) Perry County Commissioner

Conclusion

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 SSM and PCP Permit No. 123-16456-00019.